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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION: US/10/084,839**

DATE: 11/19/2002  
 TIME: 20:11:01

Input Set : N:\AMC\06666.ST25.txt  
 Output Set: N:\CRF4\11192002\J084839.raw

3 <110> APPLICANT: Third Wave Technologies  
 4 Allawi, Hatim  
 5 Argue, Brad T.  
 6 Bartholomay, Christian T.  
 7 Chehak, LuAnne  
 8 Curtis, Michelle L.  
 9 Eis, Peggy S.  
 10 Hall, Jeff G.  
 11 Ip, Hon S.  
 12 Ji, Lin  
 13 Kaiser, Michael  
 14 Kwiatkowski, Jr., Robert W.  
 15 Lukowiak, Andrew A.  
 16 Lyamichev, Victor  
 17 Lymaicheva, Natalie E.  
 18 Ma, WuPo  
 19 Neri, Bruce P.  
 20 Olson, Sarah M.  
 21 Olson-Munoz, Marilyn C.  
 22 Schaefer, James J.  
 23 Skrzypczynski, Zbigniew  
 24 Takova, Tsetska Y.  
 25 Thompson, Lisa C.  
 26 Vedvik, Kevin L.  
 28 <120> TITLE OF INVENTION: RNA Detection Assays  
 30 <130> FILE REFERENCE: FORS-06666  
 32 <140> CURRENT APPLICATION NUMBER: 10/084,839  
 33 <141> CURRENT FILING DATE: 2002-02-26  
 35 <160> NUMBER OF SEQ ID NOS: 4004  
 37 <170> SOFTWARE: PatentIn version 3.1  
 39 <210> SEQ ID NO: 1  
 40 <211> LENGTH: 834  
 41 <212> TYPE: PRT  
 42 <213> ORGANISM: Thermus aquaticus  
 44 <400> SEQUENCE: 1  
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 47 1 5 10 15  
 50 Val Asp Gly His His Leu Ala Tyr Arg Thr Phe Phe Ala Leu Lys Gly  
 51 20 25 30  
 54 Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe Ala  
 55 35 40 45  
 58 Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Tyr Lys Ala Val Phe  
 59 50 55 60

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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/084,839

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Input Set : N:\AMC\06666.ST25.txt  
Output Set: N:\CRF4\11192002\J084839.raw

62 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Glu  
63 65 70 75 80  
66 Ala Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln  
67 85 90 95  
70 Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Phe Thr Arg Leu  
71 100 105 110  
74 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Thr Leu Ala Lys  
75 115 120 125  
78 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Arg  
79 130 135 140  
82 Asp Leu Tyr Gln Leu Val Ser Asp Arg Val Ala Val Leu His Pro Glu  
83 145 150 155 160  
86 Gly His Leu Ile Thr Pro Glu Trp Leu Trp Glu Lys Tyr Gly Leu Arg  
87 165 170 175  
90 Pro Glu Gln Trp Val Asp Phe Arg Ala Leu Val Gly Asp Pro Ser Asp  
91 180 185 190  
94 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Leu Lys Leu  
95 195 200 205  
98 Leu Lys Glu Trp Gly Ser Leu Glu Asn Leu Leu Lys Asn Leu Asp Arg  
99 210 215 220  
102 Val Lys Pro Glu Asn Val Arg Glu Lys Ile Lys Ala His Leu Glu Asp  
103 225 230 235 240  
106 Leu Arg Leu Ser Leu Glu Leu Ser Arg Val Arg Thr Asp Leu Pro Leu  
107 245 250 255  
110 Glu Val Asp Leu Ala Gln Gly Arg Glu Pro Asp Arg Glu Gly Leu Arg  
111 260 265 270  
114 Ala Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly  
115 275 280 285  
118 Leu Leu Glu Ala Pro Ala Pro Leu Glu Ala Pro Trp Pro Pro Pro  
119 290 295 300  
122 Glu Gly Ala Phe Val Gly Phe Val Leu Ser Arg Pro Glu Pro Met Trp  
123 305 310 315 320  
126 Ala Glu Leu Lys Ala Leu Ala Ala Cys Arg Asp Gly Arg Val His Arg  
127 325 330 335  
130 Ala Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly  
131 340 345 350  
134 Leu Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp  
135 355 360 365  
138 Leu Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro  
139 370 375 380  
142 Ser Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp  
143 385 390 395 400  
146 Thr Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg  
147 405 410 415  
150 Asn Leu Leu Lys Arg Leu Glu Gly Glu Lys Leu Leu Trp Leu Tyr  
151 420 425 430  
154 His Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala  
155 435 440 445  
158 Thr Gly Val Arg Leu Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION: US/10/084,839**

**DATE: 11/19/2002**  
**TIME: 20:11:01**

**Input Set : N:\AMC\06666.ST25.txt**  
**Output Set: N:\CRF4\11192002\J084839.raw**

159	450	455	460
162	Leu Ala Glu Glu Ile Arg Arg Leu Glu Glu Val Phe Arg Leu Ala		
163	465	470	475
166	Gly His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu		480
167	485	490	495
170	Phe Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys Thr Gly		
171	500	505	510
174	Lys Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His		
175	515	520	525
178	Pro Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys		
179	530	535	540
182	Asn Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly		
183	545	550	555
186	Arg Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu		560
187	565	570	575
190	Ser Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu		
191	580	585	590
194	Gly Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu		
195	595	600	605
198	Val Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu		
199	610	615	620
202	Ser Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile		
203	625	630	635
206	His Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val		
207	645	650	655
210	Asp Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu		
211	660	665	670
214	Tyr Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr		
215	675	680	685
218	Glu Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys		
219	690	695	700
222	Val Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly		
223	705	710	715
226	Tyr Val Glu Thr Leu Phe Gly Arg Arg Arg Tyr Val Pro Asp Leu Asn		720
227	725	730	735
230	Ala Arg Val Lys Ser Val Arg Glu Ala Ala Glu Arg Met Ala Phe Asn		
231	740	745	750
234	Met Pro Val Gln Gly Thr Ala Ala Asp Leu Met Lys Leu Ala Met Val		
235	755	760	765
238	Lys Leu Phe Pro Arg Leu Arg Glu Met Gly Ala Arg Met Leu Leu Gln		
239	770	775	780
242	Val His Asp Glu Leu Leu Glu Ala Pro Gln Ala Arg Ala Glu Glu		
243	785	790	795
246	Val Ala Ala Leu Ala Lys Glu Ala Met Glu Lys Ala Tyr Pro Leu Ala		800
247	805	810	815
250	Val Pro Leu Glu Val Glu Val Gly Met Gly Glu Asp Trp Leu Ser Ala		
251	820	825	830
254	Lys Gly		
258	<210> SEQ ID NO: 2		

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/084,839

DATE: 11/19/2002  
TIME: 20:11:01

Input Set : N:\AMC\06666.ST25.txt  
Output Set: N:\CRF4\11192002\J084839.raw

259 <211> LENGTH: 839  
260 <212> TYPE: PRT  
261 <213> ORGANISM: Artificial Sequence  
263 <220> FEATURE:  
264 <223> OTHER INFORMATION: Synthetic  
266 <400> SEQUENCE: 2  
268 Met Asn Ser Gly Met Leu Pro Leu Phe Glu Pro Lys Gly Arg Val Leu  
269 1 5 10 15  
272 Leu Val Asp Gly His His Leu Ala Tyr Arg Thr Phe His Ala Leu Lys  
273 20 25 30  
276 Gly Leu Thr Thr Ser Arg Gly Glu Pro Val Gln Ala Val Tyr Gly Phe  
277 35 40 45  
280 Ala Lys Ser Leu Leu Lys Ala Leu Lys Glu Asp Gly Asp Ala Val Ile  
281 50 55 60  
284 Val Val Phe Asp Ala Lys Ala Pro Ser Phe Arg His Glu Ala Tyr Gly  
285 65 70 75 80  
288 Gly Tyr Lys Ala Gly Arg Ala Pro Thr Pro Glu Asp Phe Pro Arg Gln  
289 85 90 95  
292 Leu Ala Leu Ile Lys Glu Leu Val Asp Leu Leu Gly Leu Ala Arg Leu  
293 100 105 110  
296 Glu Val Pro Gly Tyr Glu Ala Asp Asp Val Leu Ala Ser Leu Ala Lys  
297 115 120 125  
300 Lys Ala Glu Lys Glu Gly Tyr Glu Val Arg Ile Leu Thr Ala Asp Lys  
301 130 135 140  
304 Asp Leu Tyr Gln Leu Leu Ser Asp Arg Ile His Val Leu His Pro Glu  
305 145 150 155 160  
308 Gly Tyr Leu Ile Thr Pro Ala Trp Leu Trp Glu Lys Tyr Gly Leu Arg  
309 165 170 175  
312 Pro Asp Gln Trp Ala Asp Tyr Arg Ala Leu Thr Gly Asp Glu Ser Asp  
313 180 185 190  
316 Asn Leu Pro Gly Val Lys Gly Ile Gly Glu Lys Thr Ala Arg Lys Leu  
317 195 200 205  
320 Leu Glu Glu Trp Gly Ser Leu Glu Ala Leu Leu Lys Asn Leu Asp Arg  
321 210 215 220  
324 Leu Lys Pro Ala Ile Arg Glu Lys Ile Leu Ala His Met Asp Asp Leu  
325 225 230 235 240  
328 Lys Leu Ser Trp Asp Leu Ala Lys Val Arg Thr Asp Leu Pro Leu Glu  
329 245 250 255  
332 Val Asp Phe Ala Lys Arg Arg Glu Pro Asp Arg Glu Arg Leu Arg Ala  
333 260 265 270  
336 Phe Leu Glu Arg Leu Glu Phe Gly Ser Leu Leu His Glu Phe Gly Leu  
337 275 280 285  
340 Leu Glu Ser Pro Lys Ala Leu Glu Glu Ala Pro Trp Pro Pro Pro Glu  
341 290 295 300  
344 Gly Ala Phe Val Gly Phe Val Leu Ser Arg Lys Glu Pro Met Trp Ala  
345 305 310 315 320  
348 Asp Leu Leu Ala Leu Ala Ala Arg Gly Gly Arg Val His Arg Ala  
349 325 330 335  
352 Ala Asp Pro Leu Ala Gly Leu Lys Asp Leu Lys Glu Val Arg Gly Leu

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/084,839

DATE: 11/19/2002  
TIME: 20:11:01

Input Set : N:\AMC\06666.ST25.txt  
Output Set: N:\CRF4\11192002\J084839.raw

353           340           345           350  
356 Leu Ala Lys Asp Leu Ala Val Leu Ala Ser Arg Glu Gly Leu Asp Leu  
357           355           360           365  
360 Val Pro Gly Asp Asp Pro Met Leu Leu Ala Tyr Leu Leu Asp Pro Ser  
361           370           375           380  
364 Asn Thr Thr Pro Glu Gly Val Ala Arg Arg Tyr Gly Gly Glu Trp Thr  
365 385           390           395           400  
368 Glu Asp Ala Ala His Arg Ala Leu Leu Ser Glu Arg Leu His Arg Asn  
369           405           410           415  
372 Leu Leu Lys Arg Leu Glu Gly Glu Lys Leu Leu Trp Leu Tyr His  
373           420           425           430  
376 Glu Val Glu Lys Pro Leu Ser Arg Val Leu Ala His Met Glu Ala Thr  
377           435           440           445  
380 Gly Val Arg Arg Asp Val Ala Tyr Leu Gln Ala Leu Ser Leu Glu Leu  
381           450           455           460  
384 Ala Glu Glu Ile Arg Arg Leu Glu Glu Val Phe Arg Leu Ala Gly  
385 465           470           475           480  
388 His Pro Phe Asn Leu Asn Ser Arg Asp Gln Leu Glu Arg Val Leu Phe  
389           485           490           495  
392 Asp Glu Leu Arg Leu Pro Ala Leu Gly Lys Thr Gln Lys Thr Gly Lys  
393           500           505           510  
396 Arg Ser Thr Ser Ala Ala Val Leu Glu Ala Leu Arg Glu Ala His Pro  
397           515           520           525  
400 Ile Val Glu Lys Ile Leu Gln His Arg Glu Leu Thr Lys Leu Lys Asn  
401           530           535           540  
404 Thr Tyr Val Asp Pro Leu Pro Ser Leu Val His Pro Arg Thr Gly Arg  
405 545           550           555           560  
408 Leu His Thr Arg Phe Asn Gln Thr Ala Thr Ala Thr Gly Arg Leu Ser  
409           565           570           575  
412 Ser Ser Asp Pro Asn Leu Gln Asn Ile Pro Val Arg Thr Pro Leu Gly  
413           580           585           590  
416 Gln Arg Ile Arg Arg Ala Phe Val Ala Glu Ala Gly Trp Ala Leu Val  
417           595           600           605  
420 Ala Leu Asp Tyr Ser Gln Ile Glu Leu Arg Val Leu Ala His Leu Ser  
421           610           615           620  
424 Gly Asp Glu Asn Leu Ile Arg Val Phe Gln Glu Gly Lys Asp Ile His  
425 625           630           635           640  
428 Thr Gln Thr Ala Ser Trp Met Phe Gly Val Pro Pro Glu Ala Val Asp  
429           645           650           655  
432 Pro Leu Met Arg Arg Ala Ala Lys Thr Val Asn Phe Gly Val Leu Tyr  
433           660           665           670  
436 Gly Met Ser Ala His Arg Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu  
437           675           680           685  
440 Glu Ala Val Ala Phe Ile Glu Arg Tyr Phe Gln Ser Phe Pro Lys Val  
441           690           695           700  
444 Arg Ala Trp Ile Glu Lys Thr Leu Glu Glu Gly Arg Lys Arg Gly Tyr  
445 705           710           715           720  
448 Val Glu Thr Leu Phe Gly Arg Arg Tyr Val Pro Asp Leu Asn Ala  
449           725           730           735

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/084,839

DATE: 11/19/2002  
TIME: 20:11:02

Input Set : N:\AMC\06666.ST25.txt  
Output Set: N:\CRF4\11192002\J084839.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:156; N Pos. 4,5,181,182,190,366,617,628,685,714,722,738,784,1022,1029  
Seq#:156; N Pos. 1038,1053,1098,1105,1206,1227,1244,1251,1252,1253,1350  
Seq#:156; N Pos. 1380,1497,1530,1569,1572,1641,1653,1655,1770,1812,2319  
Seq#:156; N Pos. 2346,2396  
Seq#:159; Xaa Pos. 2,63,109,186,205,209,227,228,233,240,243,244,247,260,290  
Seq#:159; Xaa Pos. 329,336,340,368,414,417,418,431,551,605,773,794,798,823  
Seq#:159; Xaa Pos. 833  
Seq#:162; N Pos. 1,35  
Seq#:166; N Pos. 1  
Seq#:167; N Pos. 1  
Seq#:172; N Pos. 4  
Seq#:189; N Pos. 4  
Seq#:223; N Pos. 1,6  
Seq#:230; N Pos. 30  
Seq#:231; N Pos. 1  
Seq#:232; N Pos. 28  
Seq#:233; N Pos. 1  
Seq#:234; N Pos. 1  
Seq#:413; N Pos. 19,20,21  
Seq#:421; N Pos. 16,17,18  
Seq#:425; N Pos. 19,20,21  
Seq#:3998; N Pos. 4  
Seq#:3999; N Pos. 4